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ABSTRACT

This paper critically reviews the specific role played by universities in initial teacher training. It highlights several unique contributions to good quality teacher training within the university setting. These include advanced subject matter training, research-based instruction, and a critical reflection on practice. The paper also identifies a number of ways to improve existing training provision. They include the integration of subject matter competency, pedagogical skills, and practice teaching in order to transmit a holistic and meaningful set of tools and learning to the future teacher. In this respect, the paper discusses how mutually beneficial partnerships between schools and universities can be developed and sustained. Finally, the paper provides two examples of recent innovations in the United States and France concerning the institutional setup of initial teacher training. Both countries have adopted very different reform options which correspond to existing earlier structures, addressing the particular problems inherent in each system, and attempts to achieve the objectives of their respective educational policies. (Contains 79 references.) (SM)

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The role of the university in initial teacher training: trends, current problems and strategies for improvement

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Michaela Martin

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The role of the university in initial teacher training: trends, current problems and strategies for improvement

Michaela Martin

Introduction

All over the world, governments award high priority to reforming their education and training systems. Many education systems expanded rapidly in the 1960s, the 1970s and even in the 1980s. This resulted in massive numbers of teachers having to be recruited and being given little professional training. As a result, in the 1990s many educational reforms have been concerned with upgrading the quality of teachers through both pre-service and in-service training.

In this context, initial teacher training (ITT) has experienced, over the past decades, manifold changes. In most countries, candidates with increasingly more general education were recruited and professional training periods have been extended. One of the issues in the reform of ITT is its institutional framework. Three basic reform options seem to exist in this respect. The *first* option is concerned with shifting ITT to the university level. During the 1960s and 1970s, many Western industrialized countries had been moving all teacher education, including that for the primary schools, to the university level. Some Southern European countries and others of the former Soviet Union are still implementing such reforms. Formerly organized in specialized teacher training colleges (TTCs), it is expected that the universities will upgrade ITT and have a direct impact on the quality of schooling.

The *second* option is to maintain former training structures such as TTCs or colleges of education, but to make them formally part of tertiary education. In this context, such specialized traditional teacher training structures are often urged to establish linkages with the faculties of education of existing universities. This option is pursued with the belief that independent training structures at the tertiary level provide an institutional framework, which is better adapted for early socialization into the teaching profession.

Third, there is also an adverse movement towards a so-called 'academic drift' in teacher education. Mainly in Anglo-Saxon countries, which have a long-established experience of university-based teacher training, there seems to be growing disillusion with university-based teacher training, especially in terms of its professional component. There, professional teacher education provided by the universities is criticized as being too theoretical and too remote from classroom practice. New forms of professional teacher training, organized by schools as the main actor, or through partnership arrangements between higher education institutions and schools, are currently being tested as an alternative.

The current discussion of the most appropriate institutional environment for teacher training is linked with *three* broader issues. The *first* one has to do with the changing roles of the teacher within educational systems. These roles and functions of the teacher have been continuously broadened. According to a publication by the Organization for Economic Co-operation and Development (OECD), they may comprise the following items in addition to the traditional teaching-related tasks: (*i*) team work with colleagues; (*ii*) individual counselling for pupils; (*iii*) contacts with parents and the local community; (*iv*) in-service training; (*v*) action research activities; and (*vi*) participation by teachers in the planning and management of the school (OECD, 1990, p.44). Teachers' roles are also increasingly diversified. A basic-education teacher, for instance, may have to perform tasks as different as: (*i*) teaching small children and introducing them to the second language of the country; (*ii*) teaching vocational skills to older children who are about to go out into the working world; (*iii*) making sure that children learn the core of the school subjects required to pass the end-of-school examinations and developing extra-curricular activities to bring the school and the community together (Avalos, 1991, p.49).

The *second* issue deals with conceptualizing teacher preparation either as teacher *education* or *training*, the former adopting a broader, more humanistic perspective than the second, which is largely skill oriented. Given this enlarged scope and uncertainty regarding teachers functions, it has become increasingly difficult to define clearly a professional profile for teachers and hence the corresponding training provision. As a consequence, such difficulties in the conceptualization of teacher preparation entail subsequent uncertainties over the appropriate institutional frameworks.

The *third* related issue in the discussion of the most appropriate institutional framework is the current concern with life-long learning. The need for periodic updating of teachers has become a common feature of working life in nearly all professions. Teachers – in their currently perceived roles as *facilitators of learning* – need to be able to keep abreast of new developments in their subject matter and to integrate periodically new ways of performing their professional roles. As a consequence, it has been argued that they need to be trained for independent learning and professional upgrading, which seems to be better assured in the university setting. Within this train of thought, a teaching career is conceptualized as a life-long learning process whereby teachers undergo certain stages of professional development during their career. Under this conception, teacher preparation is conceived as a continuous and integrated process of pre-service and in-service training organized in such as way as to respond to the particular professional needs of a teacher at a given moment in his/her career.

These above-mentioned issues of the broadened roles of teachers, of conceptualizing teacher preparation either as education or training, and of placing it in the framework of life-long learning, shed new light on the respective contributions of institutional environments to initial and in-service training. They point towards a broader, more open concept of teacher education than one that is concerned with imparting well-defined skills and competencies.

However, one of the most crucial questions to be addressed in this context, is the question of the impact of institutional settings for teacher training on student learning. It can be argued that only if a particular training setting for future teachers proves to have a direct impact on student achievement, can it be considered as a valid reform option. This paper addresses the linkage between teacher training, teacher effectiveness, and student learning. However, even if this question is straightforward, the reply from the available research literature is not as clear cut, as one might expect. The evidence drawn from international research on this question is rather sketchy and sometimes even contradictory.

The aim of this paper is to take stock of university-based initial teacher education in a wide range of countries and to assess its overall potentials and drawbacks as a reform option. With this in mind, it is intended to identify the conditions and the particular contexts in which university-based ITT would appear to be a desirable reform option for the development of an education system. In order to illustrate options with regard to institutional settings, two recent innovations in ITT, one from the United Kingdom (UK) and the other from France, will be presented in the appendices. These examples demonstrate in particular that innovations in ITT settings are not only conditioned by pre-existing institutional arrangements, but also by the particular objectives pursued by educational reform.

Major trends in the development of initial teacher education

Since the Second World War, teacher training all over the world has been exposed to major pressures to reform and change. There are important differences in the strategies pursued by governments in the reform of initial teacher education. These are associated with the overall economic development of countries and the general organization of their education systems. Nevertheless, there seem to be some broad patterns in the issues and subsequent reform initiatives that are similar among a wide range of countries at a certain stage of educational development.

1. ITT has been continuously upgraded to higher levels of the education system. Particularly in the industrialized countries, but also in many middle-income countries, nearly all teacher education has been placed at the higher-education level and in many cases at the university level. A recent report of the European Commission states that "in more than half of the Member States (Denmark, Germany, Greece, Spain, France, Ireland, Finland, Sweden, and the United Kingdom) initial teacher training for the primary and secondary levels of education takes place in university level institutions. Almost everywhere, the higher the level of education, the more common is university level education and training" (1997, p.105). More recently, since the mid-1990s, some Central and Eastern European countries also have abolished specialized teacher training institutions in favour of upgraded university training (Sanova, 1996). Also, in South Africa, the current government has initiated a reform that intends to integrate Colleges of Education into higher education. In August 1997, the Department of Education initiated a reform whereby all colleges were to become higher education institutions on condition that they merged with a university or technikon or became an autonomous institution with a minimum of 2 000 students. Formerly under the jurisdiction of the provincial governments, colleges thus had the option of either becoming autonomous higher

education institutions or of integrating with existing universities or technikons, either as faculties or as specialized structures (Department of Education, 1998).

2. The duration of teacher education has been expanded in many countries worldwide. Some countries have opted for recruiting teacher trainees with lower levels of qualification and providing them then with longer teacher training, but that also includes aspects of general education. Others have opted for shorter teacher training and recruiting teacher trainees with well-advanced general education. Whatever the option adopted, the general trend, however, is one of expanding the overall duration of schooling and training before entering the teaching profession. Ghani, in a survey conducted among 24 countries in four regions of the world, found that the total number of years of education (primary/elementary, secondary, post-secondary) for primary-school teachers ranged from 8 years in Nigeria to 16 years in Sri Lanka (1990). For secondary-school teachers in these 24 countries, the total years of education ranged from 14 in Nepal and Afghanistan to 18 in Malaysia (for the upper-secondary level). He reported a trend towards more general education as well as more expensive professional pedagogical training.

3. ITT increasingly has become professional. In the past, primary-school teachers were recruited from among primary- or secondary-school leavers. Later on, they received short professional training, often coupled with more general education, mostly in specially created institutions like teacher training colleges (TTCs). In the past, secondary schooling was perceived as a preparation for higher education. The tradition, therefore, has been for secondary-school teachers to receive an academic training. The need for professional teacher training was not perceived as important, since holding a degree was considered to be sufficient preparation for teaching (Judge, 1992). Since those early days, primary schooling, in all developed countries and many middle-income countries, has become universal, and secondary schooling has much larger enrolments. Secondary schooling is

not seen anymore as a direct preparation for higher education. Within this process of system expansion, it is now generally accepted that primary-school teachers are in need of training to upgrade their subject-matter competence and secondary-school teachers need professional training in the craft of teaching. As a result, the core elements of all teacher education, i.e. subject matter, pedagogical and professional training, but not their relative proportion, have become similar, be it for the primary or secondary level.

4. In the light of the above-mentioned trend, in many countries there is a tendency also to diversify the partners in initial teacher education. The traditional model of the teacher training college assuring subject-matter, pedagogical and professional training in one institution in an integrated manner is no longer the predominant case. In many countries worldwide, for instance France and many Francophone African countries, initial teacher education takes place in several institutions that may or may not collaborate. Especially where there is graduate unemployment, countries recruit future teachers from among university graduates and provide them with professional training in specialized, often reformed, former teacher training institutions, such as higher institutes of pedagogical sciences. This strategy has the advantage of recruiting teacher trainees with an advanced education, while benefiting from earlier public investment in education.

5. In many of those countries that preserve their traditional structures for ITT or that more recently have created such institutions, specialized teacher education institutions are urged or bound by law to create linkages with the university sector. UNESCO's Delors Report of 1996, *The treasure from within* stipulates the establishment of "closer links between universities and teacher training institutions for both future primary- and secondary-school teachers" as a desirable objective. "The ultimate goal should be higher education, in co-operation with universities, for all teachers, but particularly for secondary teachers."(1996, p.147). In France for instance, the newly created University Institutes for Teacher Training

(IUFMs) were invited to establish collaborative relationships with a nearby university for the sake of staff exchange and joint research projects (see Appendix 2). Similarly, the new Federal Law on Education (1993) as well as the Law on Higher Education (1995) in Argentina institutionalized the co-existence of university- and non-university-level teacher training institutes. Teacher training for the upper-secondary level (*educación polimodal*) was to be provided by university-level institutes. Without stipulating the modalities for implementation, the same law also foresaw the creation of linkages between local universities and the teacher training institutes of the non-university sector (Ley 24.195, 1993; Ley 24.521, 1995).

6. If teacher training at the higher education or university level is already a common feature in Western industrialized and most Latin American countries, a reverse trend is apparent in some developed countries such as the United States (US) and the UK, which are currently experimenting with school-based management. Professional teacher training organized within university schools of education has been perceived as too theoretical and too removed from school reality. This criticism is increasingly made not only by public authorities, but also by practising teachers themselves when reflecting on the usefulness of their own initial training. Following the trend of making schools responsible for major management decisions (including financial and staff issues), this, since the early 1990s, has begun to include school-based initial professional training, especially in the UK, with the introduction of the school-based ITT scheme (OFSTED, 1995). The assumption is that schools themselves, either within a consortium or in collaboration with universities, are the most appropriate environments for the provision of professional training. There are some of university-school partnership projects in ITT, such as the professional development schools in the US, Canada, and several Western European countries.

Structural settings and strategic options for initial teacher education

Although there is much variation in the design and structure of teacher education worldwide, (in the OECD and most middle-income countries), many programmes are now found within institutions at the post-secondary level, especially those for secondary-school teachers. A diminishing number of low-income countries, however, still recruit primary-school teacher trainees at the end of basic schooling. In many countries, several institutional settings for teacher training co-exist. For instance, Zimbabwe, Botswana and Ghana have created diploma level teacher education courses for primary-school teachers at the university level. Such courses have been established on a pilot basis and they co-exist with more traditional institutional settings such as teacher training colleges, at least for a given period in time. In some countries with big disparities in educational development between regions and states, such as Brazil for instance, the preparation of primary-school teachers at the upper-secondary level co-exists in the poorer states with university-level programmes offered by the richer states. A few other countries, such as Chile, have opted for a privatization of their teacher training institutions within a policy of overall privatization of higher education systems, and the creation of short-cycle professional institutes for teacher training at the primary level (Cerda et al., 1991, p.125).

The types of institutions offering programmes include those that have been put in place for the sole purpose of preparing teachers, starting from lower secondary and upper secondary, to be primary-school teachers. Such institutions are mainly found in low-income countries and comprise TTCs, at the higher education level, or specialized pedagogical universities. But there are also large universities involved in teacher training, at which teacher education is just a small part of the overall institution. Presented below is a categorization of structural arrangements found in initial teacher education worldwide, which distinguishes between the following institutional settings:

1. *TTCs for primary-school teachers at the post-primary level in specialized primary-teacher-training schools.* This type of teacher training was the predominant form of teacher education in most developed countries at the turn of the century when teacher education first became institutionalized. It still exists in a number of low-income countries such as Burkina Faso, Chad and Zaire, and comprises training periods ranging from two to three years of education.

2. *TTCs for primary and secondary teachers at the post-secondary level in specialized primary- and secondary-teacher schools.* In the context of many developing countries and expanding secondary-level schooling, there exists a strong trend in low-income countries to locate primary-school teacher training at the post-secondary (post-baccalaureate) level. Many low-income countries in Francophone Africa, such as Benin, Côte d'Ivoire, Guinea and Niger, have already shifted the training of primary-school teachers to the post-secondary education level, and require that teacher trainees have acquired full secondary education[1]. Training periods range from one to three years, often comprising an internship of one-year's duration.

   Furthermore, in some low-income countries, Mali for instance, the training of secondary-school teachers is still conducted in TTCs, concentrating heavily on academic content to the detriment of professional teacher training. There is, however, a strong trend, particularly in Francophone African countries, to recruit teacher trainees from the universities (with or without a full academic degree). The professional training component, such as pedagogical knowledge and methodology courses, followed by a period of practice teaching, is then transferred to the so-called higher TTCs. Instead of abolishing them, they have been charged with a new mission.

   In many countries, specialized TTCs were founded at the beginning of the 1990s, and in numerous cases their programmes were expanded from a two- to a four-year, fully fledged degree programme. Some TTCs were later given the status of pedagogical universities or they were integrated into the Faculty of Education at a university.

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[1] In Niger, primary schooling is required for the training of the *instituteurs-adjoints*, and the *baccalauréat* for the *instituteurs*, the latter being in charge of guiding and supervising the former. Both types of teachers are trained in TTCs. However, the duration of training is three years for the *instituteurs-adjoints* and only one year for the *instituteurs*.

3. *Multi-disciplinary colleges and universities*. In most OECD countries, primary-school teacher preparation is nowadays part of the university sector. In many cases, programmes, especially for primary-school teachers, are conducted in an integrated manner, combining subject-matter knowledge, general pedagogical knowledge, methodology courses, and supervision of the practice teaching in three- or four-year programmes. Teacher preparation for secondary schooling may be conducted either in this *concurrent* or in a *consecutive* manner. The latter means that teacher trainees first acquire an academic degree in one or two subject areas, and then they obtain a supplementary postgraduate degree or a professional certificate for their teacher training.

   University-based teacher education may be conducted in single or multi-purpose institutions. Many single-purpose universities, the so-called pedagogical universities, were created throughout the 1960s and 1970s, predominantly in Latin American countries. Formerly TTCs or higher pedagogical institutes, they were granted the status of pedagogical universities and their main mission was that of training secondary-school teachers. In multi-purpose institutions, teacher education typically does not hold any special priority and it is just one of the many other professional and academic programmes. Universities that offer teacher education may or may not have the status of research and doctorate-granting institutions or formal teaching-only establishments. If a university is a research-type institution, it is often eligible for research grants, and as such it is more heavily involved in research and development activities.

The above categorization shows that as far as the duration of training is concerned, teacher training programmes may be of the concurrent or the consecutive type. Several arguments are used in appreciation of both types. Some authors, like Avalos, plead for the concurrent model, assuming that it is important to integrate all components of teacher preparation at a relatively early stage of training. They argue that this makes them more meaningful to the future teachers and contributes to the development of their professional competence. Another argument for the concurrent model is that it socializes students into the values of the profession and this enables them to more rapidly develop a professional identity as teachers. A counter argument is that, as students, they have already been exposed to educational institutions for a long time. Consequently, a long period of socialization may not be a prerequisite any longer.

Over and above the discussion of professional values, it is certain that specialized schools imply earlier career decisions. This then entails higher individual and social costs if teacher trainees revise their career choices at a later stage, since they might have to start a new training programme altogether.

In reality, however, several Anglophone countries, one of which is Australia, tended to close down their concurrent teacher education programmes. It has been observed that within the context of graduate unemployment, the consecutive model attracts to the teaching profession degree holders, who would not have opted for it at an early stage of their training. This is because in many countries a teaching career is perceived as a low-prestige option. However, within the context of unemployment, graduates tend to opt for safe employment, such as the teaching profession, if they do not have other, better-paid career options. One may also argue that even if such future teachers are probably better trained with regard to their subject-matter knowledge, they might lack the intrinsic motivation which is also very much needed in the teaching profession.

Teacher training and teacher effectiveness: what conclusions can be drawn from research?

When taking stock of the contribution of the university to initial teacher education, it is necessary to draw on research evidence regarding the knowledge and skills required of teachers to perform their roles effectively. In other words, it is necessary to address the issue of the linkage between teacher education, teacher effectiveness, and student learning. If the question appears to be straightforward, the evidence from the research literature does not provide clear guidance to policy-makers and those in charge of teacher training programmes.

The first problem in this area is the lack of agreement among schools of research as to what effective teaching is. Three basic approaches can be identified: the *behavioural*, *heuristic*, and *interactive* approach. The behavioural approach is centred on the teacher and assumes that it is the teacher's behaviour, knowledge and skills that mostly affect student learning. The heuristic approach sees the teacher as a mere facilitator of a student's own inquiry-oriented learning. According to this concept, it is less the teacher but rather the student who takes the active part in learning. A somewhat conciliatory approach is the interactive one which sees teaching and learning as partner processes. Here the learner is seen both as an active partner in learning, but also the result of what and how a teacher communicates knowledge, skills, values, and attitudes (Avalos, 1991, p.10).

These underlying assumptions of teaching theory have led to different conceptions of teacher effectiveness. They have also conditioned the research design used to examine its variables. During the 1960s and 1970s, empirical, analytical research was conducted, focusing on identifying specific variables and their impact on student learning. In particular, the famous 1966 Coleman study of the equality of educational opportunity created a climate of opinion that teachers and teaching have little effect on student achievement. In developed countries, a large number of so-called 'process-product' studies tried to identify specific teacher behaviours that contributed to student achievement (Tischer et al., 1990). Many of these studies were later conducted in developing countries, where this type of research is still relatively predominant.

The behavioural approach focuses on what teachers do, what their backgrounds are, and how this has an impact on product variables such as student achievement. This research, however, could not contribute substantially to a better understanding of the impact of teachers on learning. A comparative study of the results of sample surveys conducted in 21 countries concluded that qualifications, length of experience, amount of education, and verbal knowledge of teachers seem to have a positive effect on pupils' achievement (Fägerlind and Saha, 1983). Teacher classroom behaviour – such as increasing homework and spending more time on lessons – have proved to also have a positive, but moderate effect. Summing up the results of cross-national research, Farrel concludes that "the number of years of a teacher's schooling are generally positively correlated with student's performance, but there is a limit after which additional schooling adds no visible gain in terms of student performance" (1995, p.4524). Other cross-national studies have produced contradictory results with regard to the importance of teacher qualifications (Avalos and Haddad, 1979). These studies found that the level of a teacher's qualifications had an inconsistent relationship with teacher attitudes and behaviour. In some countries, positive attitudes to teaching correlated with higher qualifications, in others the inverse was the case. In some countries, for instance in Latin America, teachers with higher qualifications were found to use more participatory approaches and modern teaching aids. In other countries, such as Jordan and India, such a relationship could not be found. Avalos's conclusion regarding the external structure of training programmes is that "although training of some sort is better than none at all, the possession of higher qualifications (more years of training or a university degree) does not appear to bear a clear relationship to student learning" (1993, p.180). Sometimes, as two Malaysian studies point out, higher qualifications may affect the achievement of secondary-school students, but not the primary ones. There may be, as in some Latin American countries (Brazil, Chile and Paraguay), a non-linear relationship, with major effects at the upper levels of primary school. None of the research, however, illuminates the nature of these effects or explains why they occur.

By the early 1980s, educational researchers in many countries turned their attention to other approaches, such as the situational-interpretive inquiry, which assumes that it is what teachers do, rather than what they are, that makes a difference to educational outcomes. Much of this research focused on the teacher's behaviour, but it also included instructional processes and context. This approach used methodologies such as observation, interviewing and direct participation. Sometimes research of this type has been combined with survey research methods. An example is the International Association of Educational Achievement (IEA) classroom environment study conducted in 12 countries, three of which were developing countries. The purpose was: to identify the characteristics with which effective teachers stimulate pupil learning, and to provide input for teacher training experiments. This study, based on correlational-experimental methodology combined with classroom observation, did not establish a clear relationship between teaching practices and student achievement. However, it stated that observed teacher behaviour was relatively conventional regarding time used on presentations, use of group work, types of interactions with students, and assessment methods in both developed and developing countries (Anderson et al., 1989).

Nowadays, there is increasing criticism of both the input-output and process-product models applied to education. In particular, it is questioned if such research is able to produce valid research results on which policy decisions, such as the allocation of resources, may be based. Such research tends to disregard what takes place within the school and the classroom, as well as ignoring the complexity and the multi-dimensionality of the learning process. It is increasingly questionable whether it is possible to isolate teacher education from the complex set of variables that influence learning, not to mention the development of the students' personalities, values, and attitudes. Also, the hypothesis of a simple relationship between teacher knowledge and student learning, or between teacher education and learning outcomes is questionable. Several studies have pointed out that teachers' attitudes and expectations of students can be a very strong determinant of students' learning, as much even as their mastery of a subject or the pedagogy.

There is also a considerable body of research on teacher education dealing with issues such as the characteristics of students entering teacher training, the perception of teacher trainees of their training programme, and teaching practice (Tischer and Wideen, 1990). This kind of research found, for instance in Canada, that teachers' views of pre-service teacher preparation in universities is not held in high esteem by students, teachers or principals, whereas the practice teaching was the most valued part of teacher preparation (Wideen and Holborn, 1990). Research conducted in the US of teachers' perceived value of teacher preparation and of the value of practical experience over formal university studies tells a similar story (Connelly and Clandinin, 1995). These research results may be due to possible inadequacies in the teacher training programmes experienced by the teachers. Avalos suggests another interpretation relating to the process of growth that teachers experience over time (1995). As teachers become more experienced, they are less concerned with overcoming difficulties with management in the classroom and their own behaviour, than with that of the students and their learning in general. Consequently, once they have overcome their initial uncertainties in the classroom, they tend to value more some components of their ITT.

As a consequence, another current stream of research on teacher training has been concerned with the professional development process of teachers and the ways this process can be fostered by initial and continuous teacher training. This process starts with the practice teaching period. The most effective organization of this practice teaching seems, according to Hacker, to be a structure of multiple teaching practices, which integrate theoretical learning with the field experience, and that allow for so-called 'reflective practice' based on diverse experiences made in a number of different school settings (1988, pp.203–210). Research developed by Borko, Bellamy and Sanders (1992) and Barba and Rubba (1992, p.1021–1035) dealing with novice and experienced Science teachers' cognitive structures, suggests that pre-service training alone may not fully be able to develop such structures in relation to appropriate teaching requirements. As a result, research on initial teacher education has come to the conclusion that pre-service training should initiate a longer process of developing knowledge and skills for teaching. Teachers' professional development and the setting up of a meaningful relation between pre- and in-service training currently constitute one of the main challenges to teacher education and development.

According to Avalos, useful research would be that which deals with what teachers learn in teacher training institutions, and that follows newly qualified teachers through the first years of practice (1990, p.217). Also, such research should experiment with modes of in-service training, which cover items such as changes in teachers' attitudes and skills in particular subject matter and their pedagogical style.

An example of such research has been conducted by Tatto, Nielson and Cummings in Sri Lanka in 1991. This study examined the effectiveness and costs of three different approaches to elementary teacher training in Sri Lanka: pre-service, conventional in-service, and distance in-service. It assessed the effectiveness of the various approaches as measured by teachers' theoretical knowledge and their actual classroom performance at three crucial stages of their training and early careers, i.e. programme entry, exit, and one year after programme completion. Growth in knowledge was correlated with the testing of pupils' achievement in the national language and Mathematics. The study showed that teacher training had a significant impact on the teachers' classroom behaviour, this being positively correlated with pupil achievement. A comparison with a control group who had received no training at all confirmed that some training was better than none. Trainees from the College of Education, an innovative full-time, pre-service training institution at the higher-education level, proved to be stronger both in subject matter and pedagogy than those from teachers' colleges with an in-service programme of the same overall duration. Finally, it appeared that the distance education approach could maintain effectiveness at the post-programme level, but less so than the two other training strategies.

These rather sketchy research results confirm the difficulties faced with basing policy decisions on cross-national surveys. It seems wiser to study variables presumably linked with teacher effectiveness at the national level. Nationally based studies allow for a closer look at the contents and curriculum of a given teacher training structure, and go beyond a mere questioning of the duration and overall structure of a teacher training programme, which tends to be the focus of cross-national studies. Such studies, in particular, allow one to evaluate the effectiveness of innovations in teacher training, with a view to shedding light on approaches that work in a particular context.

Issues in the discussion of university-based initial teacher education

Our discussion of trends in ITT has shown that despite tremendous differences in the structural settings in different countries, universities have come to play an important role in ITT, especially at the secondary, but also increasingly at the primary level, even in developing countries. There is, however, also growing criticism of university-based teacher education. In particular, it is asked whether schools themselves, as the natural professional environment for future teachers, would not be in a better position to train teachers in the skills and competencies that are needed in the classroom. In the following section, we critically review some of the main points currently made in the discussion on the comparative advantages of the university setting in the provision of ITT, compared with both specialized teacher training colleges and schools. The validity of the arguments made in favour of university-based teacher education will be evaluated with selected research and country experiences.

In the discussion, it is important to differentiate between the generally accepted components of ITT: (*i*) general education; (*ii*) content knowledge; (*iii*) pedagogical knowledge (such as learning theories, strategies for assessing student learning, classroom management, etc.); (*iv*) pedagogical content knowledge (currently referred to as methodology courses or didactics of a discipline, but also including knowledge of the background experiences and culture that learners bring to the classroom); and (*v*) the practice teaching (which may or may not be part of the formal teacher training and, hence, may or may not be conducted in a supervised way).

1. University-level ITT upgrades the subject-matter knowledge of future teachers through an exposure to specialized and research-based knowledge

This above-mentioned argument currently is the most used for shifting initial teacher education to the university sector. It is naturally most applicable to the training of secondary-school teachers, who, as already mentioned earlier, in many countries have been benefiting traditionally from university-subject-matter training. University-level, subject-matter education for secondary-school teachers is the most frequent modality, even if there are still a small number of higher TTCs or specialized colleges in charge of this type of training.

The commonly agreed-upon advantages of university-type, subject-matter training are the following: university teaching staff have themselves undergone extensive higher education and they have acquired both a broad and an in-depth, specialized, subject-matter competence. They have acquired extensive research experience, most commonly through postgraduate studies and often through subsequent intensive research exposure. As a result, it is expected that it is within universities that the most qualified subject-matter experts are found. Their dual responsibility of teaching and research, or at least keeping abreast of new developments in their subject specialization, seems to guarantee a continuous renewal of the knowledge imparted to students.

However, the real situation depends much on the recruitment requirements of higher education staff. These are very demanding in some countries and less so in others. Reimers reports on some Caribbean countries, where teacher educators in faculties of education often do not have qualifications higher than a bachelor's degree, and that in Paraguay, teacher educators only a tertiary-level degree (Villegas-Reimers and Reimers, 1996, p.482). A similar situation certainly prevails in those developing countries which recruit and retain academic staff without requiring them to obtain, in a given period, a Ph.D.

The idea of acquiring higher-level, subject-matter competency through university training is perceived to be a prerequisite for future teachers as professional educators. In view of the rapid evolution of their scientific disciplines, teachers need continuous upgrading of their subject-matter competence. University training, based partially on independent study, is supposed to impart in-depth knowledge, as well as adequate working methods, which would allow teachers to independently upgrade and keep abreast with the developments in their discipline.

However, it is also fair to say that, the current concern with the high degree of specialization and frequently fragmented university curricula sheds some doubts concerning both the breadth and the coherence of subject-matter knowledge imparted by many undergraduate degree programmes. It is known that undergraduate degrees, in many cases, are overloaded with too many and too specialized courses. University teachers tend to introduce their current research interests into the curriculum, thereby contributing to its fragmentation and overloading. Another matter of fact is that teaching staff in the universities have often been recruited at times when rapid expansion of systems and entry requirements were lowered. Nowadays, in the context of many developed countries, highly qualified staff, (such as Ph.D. holders) can also be found in schools, since employment opportunities in the university sector have decreased considerably (Bridges, 1996, p.53).

Most of secondary-teacher-training programmes are of the consecutive type. This type of arrangement generally poses a problem for the meaningful integration of the subject-matter knowledge and the pedagogical-content knowledge. Research conducted by Lederman on the difficulties encountered by the graduates with regard to their subject-matter knowledge, showed that their prior studies had exposed them to a set of disconnected topics and courses, but not to an understanding, explicit or implicit, of the structure of their subject matter. During their professional training course, student teachers of Biology recognized that they had never thought about their subject matter in terms of their constituent topics nor of the relations between these topics. They tended to recall topics learned without being able to establish connections between them (1987, pp.721–735). Similar problems seem to exist even in consecutive models of teacher education, where professional training is introduced at a relatively late stage of the overall curriculum. Gallagher describes the experience of students enrolled in a Science methodology course at the University of Wisconsin after having completed 80 per cent of the programme requirements. He noticed that students did not have appropriate conceptual structures to aid in the interpretation of phenomena familiar to everybody's experience, and that they lacked knowledge of the historical development of their subject matter (1991, pp.121–133).

The importance of subject-matter knowledge has long been considered as less important in the training of primary-school teachers. This is why in some cases the training of primary-school teachers is still a matter of specialized teacher training colleges. The future teacher was supposed to acquire a well-founded general education, such as one in the liberal arts, allowing him or her to teach the basic subjects required for primary schooling and to be trained, particularly in the pedagogical sciences, and to receive a professional training. In some countries, there is, however, a newly arising concern with the subject-matter knowledge of primary-school teachers. This is in response to a fear that in the past too much emphasis was placed on the pedagogical training of primary-school teachers. In the UK, for instance, when putting in place the National Curriculum during the early 1990s, the concern with the subject-matter knowledge of future and present teachers was vocalized by decision-makers. In a research project concerned with primary teachers' subject-matter knowledge, teachers acknowledged that they had difficulties teaching more advanced parts of Mathematics, for instance. Furthermore, they were unable to articulate how the activities they commonly taught related to a fundamental understanding of the subject areas (Maynard, 1996).

The concern with remedial action to fill in gaps in subject-matter knowledge left by the teachers' own basic education, is a recurrent concern in countries where primary-level teachers are recruited and trained, if at all, after their own primary education. In many countries of the South, teachers have to teach in a foreign language, and thus the concern with their linguistic competencies (oral expression and comprehensive reading) is critical not only for overall professional performance, but for the teachers' self-confidence. In such contexts, ITT cannot neglect the importance of remedial training in aspects that one would commonly describe as basic general knowledge.

These findings demonstrate *three* things: *first*, there is a need for and a current concern with the subject-matter training of primary-school teachers, at least in the most important aspects of the primary-school curriculum, such as national language and basic Mathematics. *Second*, primary-school teachers, like those teaching in secondary schools, need to develop a fundamental understanding of a limited number of basic subjects in order to be able to communicate them in an adequate way to young children. *Third*, even if schools were to play a more important role in teacher training, primary-school teachers are often not sufficiently competent to provide subject-matter-related training to student teachers, since many of them do not possess these skills themselves, both in developed and developing countries.

It is certainly true that subject-matter training of future teachers is potentially best placed in a university. But it is also true that such training needs to be complemented, already at an early stage, by a reflection on the key ideas, principles, concepts and skills which need to structure the process of learning. There needs to be provision of the historical, philosophical and epistemological foundations of each discipline. Understanding one's own expertise in these terms is a necessary prerequisite of good teaching. Universities are places that have a comparative advantage over any other institutional setting in this respect, and their contribution to an epistemological reflection on subject matter is a necessary ingredient to teacher training, be it organized in a concurrent or consecutive way.

2. Exposure to the foundation of educational theory, research, and critical reflection allows future teachers to develop a broader perspective of their roles and the nature of the system in which they are functioning

The second traditional argument for shifting the training of teachers to the university sector has been that teachers need in-depth exposure to educational theory drawn from Philosophy, Psychology and Sociology, through which they would gain the ability to broaden their understanding of educational practice. This is based on the assumption that theory precedes and illuminates practice and that a teacher would be practising more effectively if he/she had acquired a theoretical understanding of education. Such an understanding would help teachers to clarify their goals and the goals of education, and they would be able to identify more effectively the structures of their subject-matter competency.

More recently, it is increasingly questionable, whether training in educational theory is able to enhance educational outcomes in the light of certain input variables. Educational theory without direct linkage to practice is perceived by writers of the schools of *reflective practice*, represented by Schön (1983), and *critical theory*, represented by Ginsburg (1988), as irrelevant to the professional development of schoolteachers. The school of *reflective practice* views teaching as continuous dialogue among teachers, students, subject matter, text and context. This school conceptualizes teaching as a process of inquiry in which 'teachers knowing in action' is continually constructed and reconstructed in teaching practice. It is also argued by this school, that many of those university lecturers in schools of education have themselves had only very limited exposure to school reality. This does not put them in a position to engage in critical reflection with their students on school practice and to communicate the so-called 'educational theory' in a meaningful way to them. Consequently, it is only teaching practice and reflection over it that would contribute to professional growth. Such academic criticism of the conception that theory illuminates practice has been taken further by policy-makers, as for instance in the UK, who have criticized that educational theory taught in universities to future teachers generally introduces a bias towards egalitarian and politically leftist points of view.

However relevant some of these critiques are, it is also true that universities in general and their schools of education are those institutions with the most-developed research potential in education, in particular in those countries where there is no educational research branch set up by the ministries of education. A prerequisite for educational research to become meaningful for teacher education, however, is that it focuses on questions raised in schools, such as teaching methods, organization of classrooms, motivation and assessment, and that it feeds directly back into school realities. Conducting research on such practical and policy-relevant issues brings universities much closer to schools. In this case, the traditional role of schools of education – to contribute to critical reflection through research – does not only help to renew and develop teacher education, but it also provides a framework for the systematic questioning of school reality by those future teachers who participate in such research during their training. If such applied research is included in training, this will allow for enquiry-oriented training, which would be conducive to the development of critical reflection over practice, as stipulated by the school of *reflective practice*.

The current movement of school-based management emphasized in many Western industrialized and Latin American countries makes enquiry-oriented teacher training even more important. School-based management shifts increasing autonomy regarding overall school policy and staff matters to the schools. In such a context, the development of research skills in some personnel of schools would allow these teachers to design, monitor, and evaluate their policies and innovations. There is now a recent worldwide trend towards teachers receiving training as researchers through pre-service academic courses in research methods with stress on action research in school. This argument, mentioned by the International Labour Organisation (ILO), strengthens the case for university-based teacher training, even if it shifts the focus for the provider of such research from the universities to the schools themselves (1996).

It is, however, somewhat doubtful that schools functioning within the current context of constrained resources and multiple demands, often paralleled by increased governmental pressure for reform, will be able to comply with the request for monitoring the effects of pedagogical innovation. It might be more appropriate and more effective to associate those institutions, such as the universities, that already have a comparative advantage in this area, and establish collaborative programmes between schools and universities.

3. University-based teacher training can contribute to a meaningful integration of practice and theoretical reflection on practice

Even if the university, as a teacher training institution, has a somewhat undisputed advantage in subject-matter training and educational research, vocal criticisms have been raised with regard to the relevance of the university-training provision for school practice. In many countries, ITT is theory-based and includes little or no practical periods. In many developing countries, teacher preparation programmes still emphasize learning theories and facts, and offer almost no opportunity for students to practice their teaching skills. In countries where the practice teaching is part of the teacher training in a university setting, professional training has been criticized, in particular for the dichotomy between theory and practice, and its incapacity to provide a meaningful integration of both. It has also been found that co-operating teachers and mentors tend to use traditional teaching methods, and that co-operating teachers are not necessarily chosen for the quality of the role model they provide, but for the convenience of the school location (Villegas-Reimers and Reimers, 1996, p.479). Co-operating teachers have rarely received training that allows them to enrich their own teaching and communication with teacher trainees.

One of the most common strategies deployed in teacher training programmes to overcome the theory-practice divide has been microteaching. It allows students to learn how to plan a lesson and carry out a plan, to develop instructional skills and behaviours that are relevant to teaching, and to receive feedback on the quality of their teaching. However, microteaching takes place in a somewhat artificial situation, where the student teacher is confronted with a limited number of his or her peers acting as students. This reduces the complexities of classroom teaching that would otherwise expose student teachers to the multiple requirements of teaching, organizing a class, and dealing simultaneously with discipline and order. Gess-Newsome and Lederman conducted research on the applicability of skills and perceptions acquired through microteaching to field experience/practice teaching (1993, pp.25–45). The research concluded that microteaching had the effect of preparing students for the type of activities to be performed in actual teaching. However, new concerns were added in the field experience, such as the need for more time for student teachers to work out their teaching strategies and to get to know their students' learning styles and problems. As such, microteaching appears to be a useful strategy in the preparation of teachers. However, there is general agreement that it needs to be supplemented by some extensive classroom experience. Only such extensive and varied classroom experience, gained through subsequent practice teaching experiences, would allow teachers to become comfortable with organizing classrooms and concentrating on the quality of their subject-matter training.

Besides microteaching, which has placed a considerable emphasis on introducing teaching practice into the teacher training curriculum, there is currently discussion of introducing other innovative elements into professional teacher education, such as the case method. The case method exposes student teachers to a common problem and invites them, mostly in a group environment, to reflect on the most appropriate patterns of action. It appears to provide the link between educational theory and practice by highlighting the relationship between the concrete and the theoretical. Cases may thus exemplify and illustrate theoretical propositions or provide guidelines or models to follow (McAnninch, 1995). Their advantage over practice is to single out particularly important aspects of classroom realities and stimulate guided reflections on them. As such, they seem to represent an adequate method of preparing future teachers for crucial aspects of classroom reality. Even if this teaching method is somewhat promising as an innovative element in initial professional teacher training, its effectiveness in teacher education has not been empirically proven so far.

Further to these innovations in the teacher training curriculum, there is the practice in most countries of associating schools with the professional development of future teachers. Such schools participate with universities and colleges in providing opportunities for practical experiences. They have been given various labels over time, such as *model schools*, *practice schools*, *training schools*, *laboratory schools*, or more recently in the US, *professional practice schools* or *professional development schools*. Although there are notable differences in the organization, scope and emphasis of the underlying model of these schools, they all share the common feature of providing professional development experiences for pre-service and/or in-service teachers in school settings.

Laboratory schools, located on or near a university or college campus, were an earlier model developed in the post-war period in the US. *Laboratory schools* were experimental schools specifically created and designed for testing pedagogical innovation. The laboratory school experience lost its popularity, because it was perceived as an untypical environment, in comparison with the public school system, and too costly to be sustained. The next step was to associate regular schools, called for instance *model* or *portal schools*, with the university, and to use them as a testing ground for pedagogical innovation as well as a place for student teachers to gain practical experience. However, even under this modality, the collaboration was mainly university-driven, and also there was no proof of these schools' enhanced educational effectiveness compared with the typical public school.

Since the early 1980s, there was a renewed interest in several OECD countries in the formation of partnerships between universities and public schools to improve the nature of schooling at all levels of the system. Partnerships between universities and schools (labelled *professional* *development schools* in the US or *university-school consortia* in the UK) were increasingly supposed to improve the education system. Their joint activities involved initial and in-service training of teachers, sometimes coupled with educational research and the testing of pedagogical innovation. The idea of such partnership was to combine the preparation and continuing education of teachers in an environment concerned simultaneously with the exploration of innovative practices. These have resulted in a noticeable shift of power in ITT, particularly in countries opting for school-based management practices, from the universities to the schools. Under the professional-development school scheme in the US, partnerships between schools and universities have been created since the late 1980s, where practising teachers and administrators are brought together with university faculty. Such arrangements have shared governance structures, information-dissemination processes, problem-solving mechanisms, and external-funding sources (Stallings et al., 1995, p.598).

There is now consensus that partnerships between schools and universities have a high potential of making professional teacher training more relevant and more adequate for school reality. Both schools and universities have their complementary contributions to make to teacher education. Without any doubt, internship and practice teaching periods in schools are necessary for the student teacher to comprehend the manifold problems of classroom practice, such as planning and delivering lessons, observing teaching strategies, evaluating students, and many more. However, a narrow conception of teacher training as an apprenticeship has a number of shortcomings, which include the following:

(a) In general, it is agreed that students benefit from being introduced to teaching away from the complexities and multiple requirements of the classroom. They need to work on the preparation of lesson plans and to examine different strategies for assessing pupils' work. In order to help students to cope with the complexity of reality, it is important to introduce them gradually and systematically to it through the above-mentioned methods of microteaching and multiple internships. During such internships, teacher trainees should first devote their time to observation and then have supervised experience.

(b) In teacher training seminars, university teachers may contribute to the modelling of good practices by engaging with student teachers in a discussion on the advantages and disadvantages of observed experience. In such seminars, students take the distance necessary for developing a *reflective practitioner*'s view. In a university setting, students are invited to take an open and critical stance in their evaluation of practice and to form their own judgements. This is particularly important at an early stage of professional development, where future teachers have to challenge and enlarge their preconceptions of 'good teaching', many of which have been formed during their experience as college pupils. Schoolteachers, acting as tutors of teacher trainees, often do not have the time to read widely about the teaching methodology of their own subject, nor to keep up-to-date on developments in curriculum development and educational management theory. Thus, returning to campus may be a crucially important component for upgrading ITT.

(c) Universities are well equipped to control the quality of school-based work in order to make sure that schools are effectively performing their roles. Schools, contrary to universities, have generally no statutory responsibilities for initial teacher education – the latter are accredited by a national body for this purpose or they work within the framework of teacher training curricula established by ministries of education. Universities involved in teacher training and collaborating with schools for this purpose, have to make sure that students are appropriately placed in schools, that they are well supported by school mentors, and that mentors have the right skills to work with the teacher trainees.

4. University-based teacher training offers access to the resources of the broader academic community such as pluri-disciplinary studies, better-equipped libraries and laboratories, and the socio-cultural environment of the campus

Another argument in favour of organizing ITT in the university setting has been that universities are environments, which offer resources to future teachers, such as access to pluri-disciplinary studies, better-furnished libraries and educational resource centres. The benefit teacher training may be able to draw from this environment depends widely, however, on the organizational model adopted for it. In cases where teacher training is offered under the consecutive model, teacher training is often criticized as not drawing enough on the wider institutional environment of the university through the provision of an interdisciplinary approach to teacher training. Under the concurrent model, teacher training necessarily depends on the collaboration of different university entities, such as the faculties involved in the subject-matter training, as well as the Faculty or School of Education. Effective collaboration among university entities is often difficult to achieve, in particular given the relatively low status that teacher training often enjoys in the university. Due to these organizational constraints, the real potential for intra-institutional collaboration is indeed relatively weak. However, students do have the latitude to enrol in courses, which interest them and benefit from the diversity of the training offered.

If professional teacher training is concerned with broadening the student's experience gained in one particular institutional environment, access to well-furnished resource centres and libraries is a vitally important component of professional teacher training and more easily found in the university environment. Given the restricted capacity and the specialized interest of both teacher training institutions and schools, their library resources, particularly in the subject-matter areas, cannot keep up with those of the universities. An evaluation report by Her Majesty's Chief Inspector of Schools of school-centred ITT, conducted in 1993/1994, found that the main problem faced by students was gaining easy access to good library collections, and that training consortia of schools needed to ensure access to good university libraries (OFSTED, 1995 p.28). This might already be difficult in many developed countries, but it is likely to create even more difficulties in many developing countries, where access to a university is more difficult to ensure, for the simple reason that such institutions are much less numerous and less widely spread over the territory.

5. Universities, due to their role of critical reflection and their high degree of autonomy from the government, may provide a critical stance in teacher training policies; reforms in teacher training may be more easily implemented in the university setting due to the higher level of autonomy in the curriculum domain

The latitude that institutions of whatever kind enjoy in the definition of the content and modalities of teacher training in universities depends very much on the institutional framework of teacher education. In many Anglo-Saxon countries, institutions of higher education are accredited for the delivery of their programmes, including teacher education programmes. However, more recently, there has been a general movement to set up governmental bodies in charge of defining national criteria for teacher education, as well as regular supervision of such programmes. In countries where there is traditionally more control over the training provision of universities, such as the approval of programmes by a ministry of education, teacher training programmes have been subject to *a priori* control by governments. The general trend in the provision of teacher education, from whatever point of departure under consideration, is the one of growing intervention by governments in the content and modalities of these kinds of programmes. In the UK for instance, the Teacher Training Agency (TTA) submitted proposals during 1992 and 1993, which include comprehensive sets of criteria by which trainee teachers were to be evaluated before being granted qualified status (Hayes, 1997, p.165). Consequently, the autonomy of universities in the definition of programmes was considerably curtailed, and generally they could no longer define teacher education programmes unilaterally. The extent to which such autonomy is at all desirable, remains subject to discussion.

If the content of teacher education tends to be increasingly regulated by the state, one may argue that the role of the university as a critical observer of school reality and teacher training policies, through its research activities, becomes even more important. Universities involved in educational research and benefiting from long-standing expertise in teacher training are, in fact, well positioned to take a critical stance towards teacher training policies defined by governments, the latter being by definition more prone to political considerations than research evidence. The extent to which policy-makers in education will take into account the critical reflection and arguments put forward by the universities is a different question, particularly in the light of problematic relationships between research and policy making.

6. The university is a more costly setting for ITT, but it allows for the attainment of economies of scale due to the enhanced possibilities of sharing human and physical resources

One of the most crucial aspects of an educational reform is the issue of cost-effectiveness. The analysis of the full economic cost of teacher training poses many methodological problems. Wagner points out that the cost of teacher training includes direct programme expenses, (wages of training staff, use of equipment and facilities, and certain overhead costs), as well as the expenses incurred by the participants, and the cost of the participants' time (1995, p.5948). The variable structure of teacher training programmes in an international comparison, and the difficulties in attributing costs to induction programmes and internships make the gathering of comprehensive, detailed, comparative data on the cost of training structures an extremely rare phenomenon.

However, Wagner points out that the length of initial teacher education is perhaps the most important determinant of costs (*Ibid.*, p.5950). Since salary costs form the most important share of programme costs, and university teachers are usually the best paid among all teaching staff, university training is without any doubt a more costly institutional option. Wagner cites data collected in England and Wales that indicate that "annual student costs in colleges were half of student costs at universities and 77 per cent of student costs in advanced full-time further education. The sources of differences are to be found in the running and capital costs of the different programmes" (*Ibid.*). This information does, however, not take into account considerations of the comparative effectiveness of each training structure.

Recent experiences in England and Wales with School-Centred Initial Teacher Training (SCITT) have brought to the fore the question whether such professional training could not be a less costly and perhaps more effective option for teacher training. The SCITT scheme, which invited schools to set up consortia for school-based teacher training, offered a flat rate of £4 000 per trainee in 1993/1994. However, a survey conducted among the teacher educators of such consortia showed that the time devoted to teacher trainees in a school-administered programme considerably exceeded initial estimates made by schools (Evans et al., 1996, pp.138–155). They thought that the flat rate provided by the TTA did not cover the real costs. An OECD/Centre for Educational Research (CERI) study came to the conclusion that apart from "increased costs during implementation periods, there are indications that the recurrent costs of locating a larger share of initial teacher training in the schools are as considerable as, and may be greater than, the costs of traditional, formal initial teacher education courses" (1993).

A recent study conducted in South Africa within the context of the reform of teacher training colleges established an indicative enrolment capacity of 2 000 students as being a financially sustainable target for an autonomous institution (Department of Education, 1998, p.15). The estimate took into account a reasonable (not wide) choice of subject specializations, a student-staff ratio of 18:1 and an administrative staff of 20 per student. The annual cost per student in such an institution would be R12 746 (US$ 2 549)[2]. If the minimum student enrolment was 1 000, the annual cost per student would be about R21 778 (US$ 4 357) and an enrolment of 750 would cost about R26 450 (US$ 5 290) The indicative estimate points out that there are considerable scale economies to be achieved in bigger institutions due to enlarged possibilities to share staff, space, and equipment. When considering a change in institutional framework, such cost analyses need to be conducted at the country level. If teacher training is placed in a university setting, one may not only expect economies of scale but also salary increases, since teachers in a university setting are usually better paid. Only in a concrete country situation can an analysis be conducted of what effect precedes another, and hence one can determine which option is the less costly one.

A discussion of cost issues related to teacher education also needs to acknowledge that a shift to university-level teacher education has important recurrent cost implications. An increase in teacher salaries implies considerable salary increases throughout the entire career of a teacher. For many developing countries, this might entail prohibitive increases of the payroll within already constrained public budgets. It should also be considered, however, that there is a trade-off between training and supervision costs. Farrell has argued that "if countries choose to treat their teachers as professionals, their policies would put more emphasis and resources on longer pre-service training and socialization through professional schooling"(1995, p.4523). On the contrary, if countries opt for shorter pre-service training periods, they would need to spend more resources on both supervision and in-service training periods. As a consequence, the overall cost-effectiveness of each policy option needs to be seen in the light of such broader issues as the trade-offs between training and supervision, as well as pre- and in-service training.

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[2] 1US$=5 South African Rand in March 1998.

7. The university may be a cost-effective setting for the training of teachers, even in low-income countries in the case of graduate unemployment or a segmented training strategy

The issue of cost-effectiveness of an institutional setting for teacher training also needs to be evaluated in the light of graduate unemployment, which sheds a different light on cost issues. Since unemployed graduates have already benefited from extensive subject-matter training and require mainly professional teacher training, it may be too costly to provide parallel training provision in the TTCs. Even in least developed countries, such as Chad or Burkina Faso, that have experienced only a moderate growth in their training capacities at the upper-secondary and university levels, there is extensive graduate unemployment due to economic recession and structural adjustment policies. In such contexts, it is increasingly found that teacher training colleges, formerly in charge of all training, are concentrating their training provision on the professional domain of teacher education. As such, they share the task of teacher training with the universities. A common problem with this arrangement is the dichotomy of subject-matter training and professional training, similar to the one experienced with the consecutive model of teacher education within universities.

What is considered to be cost-effective depends, however, very much on the particular objectives of educational policy in general and teacher education policy in particular. It has very much to do with the number of teachers to be recruited in the forthcoming years, compared with the pool of potential candidates. If a developing country intends to attain a broader coverage of its primary education system and there are important recruitment needs with limited resources, it is certainly not desirable to shift all the training of primary teachers to the university. Dove points out the case of Ghana, which in the early 1960s pursued a policy of universal primary education, while simultaneously upgrading teacher education from a two-year to a compulsory four-year pre-service programme (1986, p.118). The consequence was a shortage of trained teachers.

However, it may also be that countries pursue several complementary strategies for teacher education, such as Sri Lanka. In the early 1980s, this country created in the so-called Colleges of Education with a view to providing innovative pre-service training to bright, young, high-school graduates who were expected to take up leadership positions in schools. This training comprised a total immersion programme in the knowledge, techniques, and values of effective training, and then placed trainees in secure jobs, albeit in difficult locations, for at least three years. At the same time, a distance education programme was established to accelerate the upgrading of the training of primary-school teachers (Tatto et al., 1991, p.9). Even if an evaluation of the costs and effects showed that the distance education programme cost 5.6 times less than the residential programme of the Colleges of Education, it appeared that the latter achieved better results in subject-matter knowledge. Thus, even if there is a need to train and upgrade large numbers of teachers, there might be a similar need for a more costly training structure for those who are expected to take up leadership positions in schools.

8. University-level education makes it easier to attract and retain teachers in the profession since it confers an increased status on the profession and often entails improved salary conditions

The reform of moving teacher training to university-level education has been generally conducted within an overall reform of teachers' terms of employment and salaries. University-level education generally brings with it a considerable extension of training periods. In Germany, for instance, secondary-school teachers undergo overall training periods of a minimum of six years, (four years to obtain a degree and two more years supervised professional training). Under such reforms, teacher salaries have been readjusted to bring them more in line with salaries paid generally to higher-education graduates employed by the public sector. Increasing salaries and imparting a higher social status through university-level education were often practised to increase the attractiveness of the profession to well-qualified candidates, and to increase the pool for recruitment. The improved status also enhanced their willingness to remain in a career that was characterized generally by a high attrition level, in particular during the early career stages.

Research conducted in Western industrialized countries has shown that the key factors for attracting and retaining teachers in the profession are salaries and working conditions that are relative to those in other occupations (Dolton, 1990, pp.91–104; Manski, 1987). Dolton has demonstrated that the occupational decision of college graduates in the UK were extremely sensitive to salaries. The more favourably teachers' salaries compare to salaries in other occupations, the more likely graduates are to choose teaching. Similarly, studies conducted by Murname et al. (1991), based on data from the US, have shown that the attrition rate of novice teachers is very sensitive to salaries and opportunities in other fields. It can, however, be hypothesized that graduate unemployment may shift career decisions to occupations in the civil service that offer secure jobs. Job security might thus become more important than short-term salary perspectives.

In the case of many developing countries, university-level teacher education for primary-school teachers is only an attractive option, if upper-secondary education has been sufficiently developed to offer a large enough pool for the recruitment of teacher trainees. Also, there should be no acute teacher shortage. Shifting all teacher education to the university level would reduce the number of potential candidates to teacher education. Usually, in the case of teacher shortages, authorities tend to lower entry requirements to the profession or to employ unqualified teachers who may or may not undergo in-service training later on to qualify them. In such a context, shifting all teacher training to the university level does not appear as a desirable option. Shifting a part of such training to this level may, however, be part of a longer-term strategy, as already mentioned above.

The up-grading of ITT to the university level has also proved in many cases to be politically rewarding, since such reforms have been requested in many countries by the teacher unions, often together with their requirements for improved professional status and salary levels. As such, a consensus on the reforms of teacher policies that comprises a shift of the initial training to the university level could be more easily reached. There seem, however, to be some exceptions to this rule in some Latin American countries, one of which is Mexico. Here teachers' unions would strongly support teacher training in specialized *escuelas normales*. In this country, unions have developed such a strong stance on educational policy making that they are consulted on every reform and change. Through such communication channels, unions have more easy access and impact on the training provision in *escuelas normales* than on universities, which have a lot of autonomy, especially in the area of academic programmes.

Table 1: Pros and cons of teacher education in the university setting

Issues	**Pros**	**Cons**
Subject-matter knowledge	•Teacher trainers in the university setting have the most advanced subject-matter knowledge due to extensive training periods and research exposure in their discipline. •Universities have a comparative advantage in the provision of historical, philosophical, and epistemological reflections on subject matter.	•University curricula tend to have a high degree of specialization and fragmentation. •There is generally a lack of integration of subject-matter and pedagogical-content knowledge, in particular in consecutive teacher training programmes.
Educational theory	•Universities are those institutions with the most developed research potential in education. •When they conduct research on applied educational problems they can contribute to a meaningful integration of theory and practice. •Within the context of school-based management, teachers have to be involved in the evaluation of educational innovations; hence they need a research-based training.	•Educational theory without direct linkage to practice is irrelevant for the professional development of teachers.
Practical training periods	•Through innovative teaching methods, such as microteaching, the case-study methods and partnerships with schools, universities can overcome the theory-practice divide. •Supervised internships through the association of a university tutor allow for a reflection on practice away from the multiple pressures of the school environment.	•University-based teacher training often does not impart the knowledge and skills necessary to start the teaching career. •Supervised internships often are not chosen for their model character, but for geographical convenience.
Socio-cultural environment	•Universities offer the opportunity of pluri-disciplinary exposure, more varied socio-cultural activities and better-equipped libraries and resource centres.	•The opportunities offered by entities other than schools of education for pluri-disciplinary exposure are hardly exploited for teacher training, due to lack of co-operation among university departments.

Autonomy	•Due to their generally greater autonomy from governmental policies, universities have a comparative advantage over other institutional settings in the critical review of teacher training policies. •Their higher degree of autonomy (though diminishing) allows them to introduce innovations more easily into the training provision	•Innovations introduced by universities do not always reflect governmental priorities. As a consequence, governments tend to interfere more strongly through the setting up of buffer organizations.
Costs	•The larger size of universities tends to attain economies of scale through a higher potential for the sharing of human and physical resources. •Higher investment in teacher training tends to diminish the need for investment in subsequent in-service training and supervision.	•Teacher trainers in the university setting tend to receive the highest salaries of all teachers in the system. Thus, teacher training may become more costly, if economies of scale do not offset the effect of increased wage costs.
Cost-effectiveness	•In the case of graduate unemployment, university graduates can be recruited for short professional training; this allows them to benefit from former public investment in education. •Even in the context of a shortage of qualified teachers, a segmented teacher training strategy may include the provision of university training for those teachers who are supposed to take up leadership positions in schools.	•When there is shortage of qualified teachers, recruitment requirements tend to be lowered, in order to widen the pool of potential candidates. If recruitment requirements are increased, this will exacerbate teacher shortages.
Attraction and retention of teachers	•Since university-based teacher education is generally related to improved employment conditions, it allows teachers to be more easily attracted to and retained within the profession. •University-based teacher training is generally a reform option well received and supported by teachers' unions.	•Where teacher unions have developed close links with educational authorities, they tend to favour training in institutions, which are more tightly controlled by the State.

Conclusion

The above discussion of advantages and drawbacks brings us to the conclusion that university-based teacher education is a desirable option in many respects, both from a professional and an economic perspective, despite the many shortcomings that have occurred over the years and that are currently stigmatized. As such, we believe that it is necessary to better exploit the potential of universities for improved teacher training programmes. Especially with regard to the subject-matter area and the critical approach inherent in university-based training, the comparative advantage of the universities over other institutional environments can hardly be questioned. The same applies to educational research, even if it is often deplored that research activities conducted within schools of education tend to be removed from the direct problems experienced in schools, and as such do not necessarily enrich the knowledge base of teacher education. It is also commonly acknowledged that the university, in comparison with other single-purpose institutions, offers access to pluri-disciplinary studies and library resources that are essential for an intellectually enriching environment needed for the training of teachers. University-based teacher education allows for the attraction of more and better candidates to the teaching profession, due to their greater training capacity, notably in the subject-matter area, and their generally higher prestige in the higher education system. Last, but not least, in most cases it is a politically rewarding option, since it is widely supported by teachers unions and entails an enhanced status of the teaching profession in society.

University-based teacher education is a reality in most countries for secondary-school teachers. For the primary level, teacher training at the higher level of education is mainly a feature of those countries that were able to extend the coverage of their secondary schooling, so that there was a sufficient pool for recruiting teacher trainees with upper-secondary schooling. Generally, those countries that were able to extend considerably the coverage of their secondary education have shifted teacher training to the university level. Such reform often went along with a general reform of higher education that needed to expand its capacity in order to respond to a growing social demand from secondary-school leavers.

However, the case of Sri Lanka shows that countries may also opt for a segmented teacher training system that corresponds to diverse needs. Such a segmented system may comprise lower cost training options to comply with short-term needs as well as higher-cost options, such as university-based teacher training, which aim at the development of highly trained professional educators. Such highly trained teachers may be more easily able to occupy leadership positions in schools. Segmented systems of teacher education are, however, not in the good books of teachers' unions since they tend to divide teachers. As such, such systems are often not politically rewarding.

Even if one assumes that university-based teacher education is a desirable option under certain circumstances discussed above, there are nevertheless a number of grievances with university-based teacher education, mainly in the professional training domain. They refer in particular to the lack of integration of the subject-matter knowledge and pedagogical-content knowledge, as well as difficulties in imparting classroom-related competencies. It seems that teachers lack skills in the use of a range of different teaching materials. Moreover, criticism is raised about their capacity to plan lessons effectively, manage classrooms, maintain an orderly atmosphere, and assess pupils' achievements. The above-mentioned discussion of the current arguments in favour of university-based teacher education has shown that professional training of teachers is best conducted in close co-operation with schools, but that university departments have also unique contributions to make. Consequently, it seems that the most important challenge is currently the establishment of a mutually beneficial and sustainable partnership between the university and the school.

From the discussion of the comparative advantages and the drawbacks, the *four* following questions, we believe, are at the heart of an attempt to improve the contribution of the university to ITT.

1. How can academic-content knowledge be delivered in such a way that the future teacher develops a broad understanding of his/her subject area and acquires simultaneously a deep-enough knowledge enabling him/her to keep up with developments in the discipline?

Undergraduate training in many universities currently undergoes ever-earlier specialization of subject-matter knowledge. If it is desirable for future teachers, in particular those teaching at the upper secondary-level, to have been exposed to advanced knowledge and related research methodologies in some particular aspects of their discipline, it is nevertheless essential for them also to acquire a broad understanding of it. Such an understanding includes a comprehension of the history of the discipline and of the development of its knowledge base. It is also essential that graduates are able to make linkages between different sub-areas of the discipline.

Where teacher education is organized according to the consecutive model, institutions of higher education have more difficulties in complying with the particular exigencies of future teachers in their undergraduate programmes, since they are not yet a well-formed clientele. In general, it is easier to take care of the particular demands of teacher trainees within the concurrent model, where students have already explicitly opted for the teaching career, and where there are particular provisions made for their training in the subject-matter area. Usually, teacher training courses within the concurrent model have been accredited by national educational authorities or they are complying with established criteria. If such procedures or criteria are applied to the subject matter domain, it will be easier for higher education departments to obtain an institutional commitment and the necessary resources for their implementation.

2. How can subject-matter knowledge and pedagogical-content knowledge be integrated so that the future teacher understands the linkages between them and develops teaching styles that are adequate for learners with varying learning abilities and cultures?

A second major grievance about university-based teacher education is the lack of integration of subject-matter knowledge and pedagogical-content knowledge (i.e. didactics of the discipline, the development of teaching strategies for different learners, etc.). Once again, the extent of this problem differs according to the concurrent or the consecutive model, the latter allowing only for an *a posteriori* integration of both, since pedagogical-content knowledge is usually only part of the professional training stage. A meaningful integration of both elements remains, however, difficult also under the concurrent model, when didactics courses are offered at a late stage of the course of studies.

With the concurrent model, several departments, such as the Faculty of Education and the subject-matter faculties of the university need to collaborate. It may be either the one or the other that bears the overall responsibility for teacher training. Where countries have opted for didactics courses to be located within the subject-matter faculties, these training provisions have sometimes become marginalized, given the overall culture of the university, which favours abstract over-applied knowledge. The current challenge is indeed to obtain a fruitful collaboration among the Faculty of Education and the respective subject-matter faculties.

Even if the concurrent model is desirable from a professional training point of view, it also has several disadvantages. The career choice for the teaching profession needs to be made early and a wrong choice implies high individual and social costs. Also, teacher training programmes tend to be a lower-prestige option and this distracts those who have a definite subject-matter interest first and consider the teaching profession later, sometimes simply because other career prospects are bleak. As such, the consecutive teacher training option might attract better subject-matter specialists to the teaching profession, but perhaps not necessarily those who are most committed to the profession.

3. How can general pedagogical knowledge and practice teaching be combined to: allow a meaningful integration of theory and practice so as to effectively start the teaching career, and stimulate reflective practice at a later career stages?

This question relates to what is currently perceived as being the most important challenge to professional teacher training in the university setting. If microteaching and the use of the case-study method are certainly important tools to introduce teacher trainees to practical aspects of their future professional reality, they cannot replace concrete and multiple-school experiences obtained through internships.

In most cases now, teacher trainees spend several internships in schools, some of which are meant for observation, others for teaching. It has often been deplored that schools in this process are sometimes chosen more for their geographical convenience, than for their model character. The same is true also for the choice of mentors who are not necessarily models of teaching, and who have often not been trained for their task as mentor. Consequently, in traditional school placements, where schools have hardly any responsibility for teacher training, the experience that teacher trainees gain during their school practice teaching may be extremely uneven. Whatever the policy context, an essential requirement to improve school practice is to select placement schools and teacher mentors for their model characters.

Within a policy context of school-based management, where schools become the responsible unit for many management decisions, such as teacher recruitment and their professional development, schools may be expected and willing to take over more responsibility for teacher training.

There might, however, be limits,.as experienced in the School-Centred Initial Teacher Training (SCITT) scheme (see *Appendices 1* and 2) to a greater involvement of schools in teacher training. First, it has to be questioned whether schools are willing to engage to a large extent in this enterprise. Second, teacher training is a labour-intensive task and requires major time investments from the mentors, and it is also questionable whether mentors want to spend this time with teacher trainees. Third, mentors are not trained in the teaching of adults and do not necessarily follow up on new research findings in curriculum development, teaching strategies, lessons planning, etc. Fourth, the development of an attitude of reflective practice in future teachers requires multiple school experiences, and a critical reflection of them in an environment outside the sometimes hectic and task-oriented school. Also, it remains questionable whether schools or school consortia are the most cost-effective units for teacher training, since there are important economies of scale when larger institutions, such as universities, take charge of teacher-training-linked activities, such as method seminars or resource centres. There is first-hand evidence that they are not.

4. How does one develop mutually beneficial and sustainable partnerships between universities and schools for the professional training of teachers?

The above discussion has shown that partnerships between schools and higher education institutions seem to be a most desirable option for the improvement of ITT. However, past experiences with partnerships have brought to light a number of obstacles in this area. Schools and universities have different traditions, cultures, and missions. Even if schools operate within a framework of school-based management, they do not benefit from the same level of autonomy as universities, their teaching staff have been trained in different ways for different purposes, and they are not earning the same salaries. As a consequence, there exist a number of tensions between both organizations stemming from different types of responsibility, from the difficulties staff have in giving up traditional roles, and from unresolved issues of power and authority. And last but not least, not all schools have access to a nearby university, this being a particular problem in those countries which have only a limited number of higher education institutions, often located in a few urban centres. However, in the context of most OECD countries it should be acknowledged that the gap between schools, especially secondary schools and higher education establishments, in terms of autonomy and staff qualifications seems to be narrowing down more recently in a number of countries.

What would be the conditions for a successful partnership between schools and universities for educational development? First, experiences from the USA and the UK of governmental initiatives seems to indicate that partnerships, although professionally motivated, benefit from official requirements for them, such as stipulated in accreditation criteria for teacher training courses – for instance, the minimum number of weeks to be spent in schools. In both the USA and the UK, governments or educational foundations have made project funds available for the development of innovative training partnerships, thus putting in place financial incentives for these.

It is more promising to widen the scope of partnership. Thus, partnership would not only be geared towards ITT but also comprise continuous professional development, mentor training, and educational research. Such a widened scope allows schools to conceive staff development issues in a holistic manner, from an involvement in the design of ITT, to subsequent induction programmes for newly qualified teachers and further professional training. Higher education involvement will be diminishing the further a teacher moves ahead in the career, but there are potential contributions from higher education at all stages of professional development. A broadened scope of activities also allows for the development of a longer-term perspective for partnership, moving beyond the short-term needs of involved partners.

Partnerships between schools and universities also need to be based on: a negotiation of the unique contribution which each partner brings to the partnership, the extent to which core purposes of each organization might be modified, a discussion of what each partner needs from the partnership, and what partners expect to gain and loose, as well as an explicit expectation of the roles and responsibilities of each partner to provide information, agreed services, and resources. It seems that the development of contractual arrangements between both institutions laying down these mutual expectations of the contributions and the results to be obtained, help to avoid later conflicts and frustrations. Without any doubt, the development of partnership requires time and individuals who are committed and willing to sustain it.

Finally, it should also be acknowledged that there are multiple forms and degrees of partnerships. These range from short-term arrangements, limited to the joint implementation of a particular task, to long-term comprehensive programmes. Also, the current rhetoric regarding the benefits of partnership may hide what are indeed sometimes quite unequal relationships of one partner dominating another one or several others. Without any doubt, this has been the case in many so-called university-school partnerships. Hence, it is extremely important to observe and evaluate current innovative initiatives with a view to identifying success factors and those that entail the failure of partnership arrangements.

Appendix 1

Recent reform of teacher education in England and Wales

The history of teacher education in England and Wales

The organization of teacher education in England and Wales has experienced several major reforms since the 1960s. The issue of the most appropriate institutional framework for teacher education is still high on the policy agenda. Scotland, due to its particular tradition and different structures has been following somewhat different evolutionary patterns.

In England and Wales, teacher training for both the primary and the secondary level became institutionalized after the Second World War. Until 1944, secondary education was regarded as the privilege of the few, to be purchased either at a private school or earned in a competitive public examination taken by some pupils at the age of 11. The emphasis in both types of schools was grounded in academic subjects, as defined by the dominant university, where the teachers were educated. At the same time, a voluntary and relatively undemanding postgraduate course of training was provided, and became compulsory in the 1970s. During this period, the preparation of secondary teachers was essentially defined as a preparation of subject-matter experts followed by a postgraduate certificate in ITT.

Elementary-school teachers usually had not received any form of education beyond the elementary level, before the Church and later the state began to set up specialized teacher training colleges for elementary-school teachers during the early 20th century. Such colleges became loosely associated, on a regional basis, with the universities during the 1950s. These colleges offered two-year training courses, leading to the award of a simple certificate having little or no connection with university studies. When the polytechnics were created during the mid-1960s with a focus on practice-orientated training and applied research, and controlled by local governments, many of the colleges of education became absorbed into this non-university sector or were established as colleges of higher education. Following a recommendation of a Commission, chaired by Lord Robbins in 1963, to bring the colleges of education within the university or polytechnic sector, primary teacher training was upgraded to a four-year training course and lead in all cases to the award of a degree – the Bachelor of Education (Judge, 1992, p.1 229).

During the 1970s, successive reorganizations took place and the university became involved in the preparation of both primary- and secondary-school teachers, not exclusively, but increasingly over time. The universities considerably increased their share in the teacher education market and they offered training courses for teachers most of which were organized according to the consecutive model. In October 1980, some 30 university departments shared 5 746 Postgraduate Certificate in Education (PGCE) students (Wragg, 1981, p.109).

However, during the early 1980s, growing criticism arose that professional teacher training in universities had created an unhealthy divorce between theoretical understanding and practical knowledge. The first was taught in the university and the second was acquired through 'on-the-job training' in schools. Underpinned by Schön's theory of teacher education as the development of the reflective practitioner, awareness grew among teacher educators that professional knowledge was gained through a 'reflection on practice' (1983). This new focus on practical teacher training (to be gained directly in schools) was strongly favoured by the then Conservative Government, which took a critical stance towards the leftist theories that, it thought, universities had been instilling in future teachers. The Conservative Government particularly criticized the fact that teacher education had remained a supply-driven process and continued to be controlled by the higher education institutions, and not by the employers of teachers, i.e. the schools.

The late 1980s saw a number of far-reaching reforms in the educational set-up, particularly the application of market principles and competition among providers to education. Such reforms included a move towards school-based management, to encourage local control and initiative, and the creation of a national curriculum, with a view to ensuring a minimum standard in a diversified system. With regard to teacher training, the funding of in-service training, during the early 1990s, was shifted away from local educational authorities (LEAs) to schools to provide the schools with a strong tool for local staff policies and development.

As a result, a number of policies were implemented to ensure that teacher training took place in the context of a partnership between universities and schools. In 1984, the Council for the Accreditation of Teacher Education created criteria for initial teacher programmes, among which, a minimum number of weeks to be spent in schools were made mandatory. School-based work and the partnership with schools have also become a major focus of external quality assessment, as demonstrated in the Office for Standards in Education (OFSTED) working papers for the assessment of initial training for secondary-school teachers (1993). Within this context, during the late 1980s, a number of innovative projects of partnerships between schools, higher education institutions and LEAs were set up for the initial and in-service training of teachers (Everton and Impey, 1989).

The introduction of the Articled and Licensed Teacher Training schemes

Since 1989, various innovative schemes for ITT were introduced that again stressed the importance off 'partnership' between schools and universities. One of these schemes was the Articled Teacher initiative, introduced in 1990, inviting schools, LEAs, and higher education institutions to respond to a tender procedure for financing teacher training courses by the Department of Education and Science (DES). The overall objectives of the scheme were to strengthen workplace experience and to train teachers in subject areas where there were shortages of teachers. It was hoped that non-traditional entrants to teaching would be attracted by the scheme (Clayton and Pearce, 1993, p.133).

The scheme established an alternative approach to the traditional PGCE course and comprised a maximum programme of two years. Like traditional PGCE students, articled teachers had to be graduates. They were supposed to spend 80 per cent of their time in school, where most of the training would be delivered either by teachers or lecturers from the training institution, and 20 per cent in a higher education institution. During this time, articled teachers would be considered as supernumerary members of staff. The scheme would give preference to shortage subjects such as Mathematics, Science and Modern Languages and it would train both primary- and secondary-school teachers. It was supposed to ensure the award of a standard teaching qualification.

From 1990 onwards, 16 consortia comprising LEAs and higher education institutions were set up with a maximum of 50 trainees placed in each consortium.

An evaluation conducted by OFSTED in 1993 of the Articled Teacher scheme brought the following shortcomings to light. Most consortia were initiated by higher education institutions together with the LEAs. The school generally became involved only at a later stage, with a view to addressing its specific recruitment needs. However, the major part of the support for the articled teachers came directly from the school staff, through a mentor with whom the articled teacher was associated. Such mentors, as part of the Articled Teacher scheme, were generally provided with guidance from the higher education institution in the form of a handbook that was introduced to them at a meeting. However, most consortia did not foresee a particular training for mentors. The LEAs' contribution was also limited. There were many practical problems that included long travelling hours between the schools and the higher education institution, which undermined the initial intention to fully integrate the articled teachers with students of the PGCE courses. The scheme lasted less than three years and was closed down in 1993 (Anderson, 1995, p.83).

The Licensed Teacher scheme was also introduced in 1990 and was based on the Education Reform Act of 1988 and the Education Regulations of 1989. It was founded upon a contractual partnership involving formerly unqualified teachers, who were recruited by a school or the LEA to fill specific vacancies. These trainees were based in a particular school for the whole period of their placement, and were literally 'trained on the job'. Initially, the scheme was foreseen for both primary and secondary schools, but finally was confined to secondary-school teachers only.

The Licensed Teacher Training scheme was created with the objective of regulating overseas-trained teachers and encouraging a career change to teaching amongst new entrants without, however, leading to a qualification awarded by higher education. Licensed teachers spent two years in the programme as classroom teachers, supported by an identified mentor in a school. One day of each week was to be spent either at the university or on study in school. Licensed teachers received a license to teach in schools, but after two years of experience they were to be assessed for Qualified Teacher Status (QTS). It has been left to the discretion of the LEA or school as to whether an institution of higher education played a role in the training process. Since there was no absolute requirement for higher education institutions to be involved in the training of licensed teachers, the introduction of the new scheme meant that there no longer were standard requirements for entry into teaching in the education sector.

An evaluation of the Licensed Teacher Training scheme by Her Majesty's Inspectorate (HMI) highlighted that most licensed teachers were appointed to LEAs and schools with recruitment difficulties (OFSTED, 1993). Of those licensed teachers reported to be performing poorly, many were in schools that were considered unsatisfactory for the training of teachers. Few schools provided well-structured training for licensed teachers and the training did not always match the needs of the various categories of licensed teachers. In fact, teachers were recruited according to vacancies that schools had difficulties in filling. Although the LEAs made a commitment to offer training opportunities for licensed teachers, most commonly by making it a requirement that they be attached to an institution of higher education during their training period, this meant in practice that the licensed teacher was integrated into existing courses. Given the diverse training needs of licensed teachers, this was perceived as a less-than-satisfactory provision for teacher trainees in need of individualized training provision.

Both the Articled and Licensed Teacher Training schemes did not require teacher trainees to spend time in several schools, with a view to enriching their practical experience by a broader range of institutions. This was perceived as being yet another shortcoming of this training provision.

The introduction of School-Centred Initial Teacher Training (SCITT)

Since the early 1990s, more radical reforms, formalized in the 1994 Education Act, have been introduced in ITT. The objective of this reform was to further centralize power over teacher training in the hands of the state and transfer control from higher education to the schools, and to make teacher training more practical by focusing on the competencies of teaching. In January 1992, the Secretary of State for Education announced that 80 per cent of the ITT should take place in schools.

The reform was accompanied by a radical transformation of the competent national bodies in charge of ITT. The Teacher Training Agency (TTA) was created and made responsible for the allocation of funds for teacher education and much educational research in England. It was also charged with a mandate to monitor and administer teacher training. As part of this reform, the Council for the Accreditation of Teacher Education (CATE), a professional body comprising mainly teacher educators, was abolished. The TTA accredits teacher training institutions, controls student entry numbers, and administers central funding.

These reforms were heavily criticized by the university sector which, through its professional bodies and individuals, made major efforts to justify its involvement in ITT.

The SCITT offers the possibility to consortia of schools to take total control of ITT funded directly from the TTA. As in the Licensed Teacher Training scheme, there is no requirement to involve higher education, although consortia are encouraged to do so. The schools can be of any type, primary or secondary. The first round of six consortia, set up in 1993, did not, however, include any primary schools.

The principles underlying this scheme extended on those in the Articled and Licensed Training schemes, since the school consortia were responsible for course development (often buying in expertise from a higher education institution), student recruitment, and assessment – granting QTS to successful students. Courses, however, were required to conform to the criteria in the relevant Department of Education Circulars for ITT. In 1993 the consortia received a flat rate of £4 000 for each teacher trainee. Since 1994, start-up costs of £15 000 for the development of new courses could be claimed by new consortia entering the scheme.

Six consortia of schools were approved by the Department of Education to begin training 150 teachers in September 1993. A further three consortia commenced SCITT programmes in January 1994.

Consortia make use of higher education institutions (HEI), consultants and LEA advisors and inspectors to a varying extent to assist with course design and quality assurance. Five of the consortia offered a course leading to a PGCE validated by a higher education institution. The sixth offered a course leading to the award of its own qualification with QTS. For the quality control of students, two of the initial consortia relied on experienced HEI tutors as moderators, who visited schools regularly, observed student teaching, and read their assignments. The role of subject mentors under this scheme was found to be more far-reaching than in the role they occupied in the earlier schemes. For instance, they were involved in helping students prepare written assignments and marking these, a task earlier performed by a higher education tutor.

Each consortium – comprising three to eight schools – was required to identify a lead school to receive and manage government funds. These funds were managed by a co-ordinator (usually part-time) located in the lead school. The co-ordinator was in charge of preparing the overall proposal, managing finances, and communicating with the subject mentors in school.

Evaluation of SCITT

In 1995, HMI published an evaluation report on the 1993-1994 phase of the scheme, which presented the main findings from a relatively close monitoring of the first year of operation (OFSTED). The report summarized that "the quality of the secondary teacher training was good in one consortium, satisfactory in three, but had not reached a satisfactory standard in the remaining two. Given the short time and the innovative nature of the courses, these achievements were to the credit of those involved in training" (*Ibid.*, p.4).

The report also stated that the standards of teaching were at least satisfactory in 74 per cent of the lessons seen, compared with 84 per cent of traditional courses, but there were fewer high-quality lessons compared with traditional courses. However, a third of the inspected teachers showed deficiencies in lesson planning. The majority of the student intake was judged to be suitably qualified for the training scheme. The report concluded that selection procedures needed to be improved, particularly with regard to ensuring adequate standards of the subject knowledge of trainees, that in some cases had proved to be insufficient.

The overall quality of the training was assessed as satisfactory or better in just over 80 per cent of the observed sessions. In some consortia, the focus of the training was on classroom observation, joint teaching and follow-up discussion with a subject mentor or classroom teacher. Other consortia offered a formal programme of application sessions, while others included general school issues. Often, there was lack of co-ordination between training elements, and some tutors showed insufficient knowledge of support materials, alternative approaches to learning, and relevant research.

The effectiveness of the co-ordination of training within the consortia was variable, with a number of deficiencies identified in the management of courses. Where management was successful, there was a heavy reliance on the energy and commitment of the consortium co-ordinator, usually a member of the senior management team in the lead school. Particular problems were also experienced in the quality-assurance arrangements, due to limited time for planning and preparation. The report also mentioned that the standard of resources available to students was generally satisfactory, with the exception of access to good library collections and insufficient resource centres in the schools.

The report concluded that SCITT was capable of producing competently trained teachers. However, the first year revealed a number of difficulties, particularly in: the management and coherence of the course, the training of tutors and subject mentors to raise expectations of the students' performance, quality assurance arrangements, library provisions, and student selection procedures. The small sample of former SCITT students inspected as newly qualified teachers also spoke appreciatively of their training and two-thirds felt that it had been good or very good, this also being the view of the great majority of their head teachers.

Another research study found that the schools involved in the first round of SCITT consortia were particularly dynamic institutions, with a willingness to be at the forefront of educational innovation (Evans, 1996, pp.138–155). Another finding was the perception among all school mentors of having insufficient time teacher trainees. This was even more so in the case of SCITT mentors, given their even heavier involvement in the guidance and assessment of students. Also, SCITT mentors usually favoured involvement of higher education institutions, and those mentors who had had little input from these during the first year welcomed the plans for a much greater degree of higher education involvement in the second year of the scheme.

Administrators of both higher-education and school-administered schemes agreed that schools generally suffered financially, when estimates of both tangible and intangible teacher-training-related costs were considered. Interviewees felt that the payments schools received failed to recompense them for the full amount of time devoted to students and the role of mentor infringed upon out-of-school time.

From the above-mentioned findings, the SCITT scheme appears to have been successful, but it can be expected to operate only on a limited basis and as an alternative provision to professional teacher training administered by higher education institutions. The main problems identified were inadequate resources from the TTA and the insufficient time mentors gave to student teachers. This might have been even truer for primary schools that have not so far taken part in the SCITT. A survey conducted by the representative body for Principals of Colleges and Institutions of Higher Education revealed that among 1 202 primary headteachers, only 12 wished to take the major share of responsibility for the intellectual and pedagogical development of the trainee teachers (Ambrose, 1996, p.23).

In order to make training in schools and partnerships between schools a viable and effective initiative, it is necessary to institutionalize mentor training, to endow it with a recognized qualification and with the provision of adequate time. The enthusiasm of individuals cannot be expected to be sustained in the long run, and mentoring time needs to be costed adequately, so that mentors can be freed from (a part of) their teaching obligations.

Appendix 2

Recent reform of ITT in France

The history of institutionalized teacher training in France

As in the UK, the training of teachers for primary and secondary schooling used to be organized under completely different training structures. Traditionally, secondary schooling was conducted in the *lycées*, created under the Napoleonic order, which were understood to be preparation for the university or the then existing *grandes écoles*. From the beginning of the 19th century onwards, secondary-school teachers, the *professeurs* were trained at the *Ecole normale supérieure*, and in order to occupy a tenured position, they were required to pass the agrégation, a national examination which granted qualified teacher status, on the basis of subject-matter knowledge. The knowledge that these teachers needed to demonstrate before admission as an *agrégé*, i.e. qualified teacher, gave only very low priority, up till the 1990s, to any form of professional training.

During the 1950s, at a time when secondary education was expanding and when a formal separation of lower- and upper-secondary education was in operation, a new group of formally qualified, secondary-education teachers was introduced, together with a new qualification, the *Certificat d'aptitude au professorat de l'enseignement du second degré* (CAPES). At the same time, the opportunity was taken to create – albeit outside higher education – a field-based professional preparation of CAPES teachers. While undertaking somewhat reduced teaching responsibilities, the laureates of the CAPES were required to spend time in a *Centre pédagogique régional* (CPR) where training was assured by part-time professionals under the supervision of an inspector. There was no linkage established between the *Centre* and the universities, even if the latter have created, since 1968, a number of departments of education.

The training of primary-school teachers, the *instituteurs*, was organized from the late 19th onwards in the *écoles normales* that had no linkage at all with universities. Special national higher institutes, again located outside the university, were established to train the *professeurs* of the TTCs and for upper-primary schools that grew alongside the *lycées*. The training traditionally provided by the TTCs included a large measure of general education, and a rigorous preparation for the practical task of teaching. Trainees for primary schooling were recruited to the TTCs initially with no more than a primary school certificate. Their entry requirements have subsequently been upgraded to lower-secondary and upper-secondary level, and more recently they require a university degree.

Since the 1990s, the university, in principle, has come to educate, for at least three years, all future French teachers, both primary and secondary. Those preparing to become primary-school teachers first obtained a university degree and then transferred to the TTC for professional preparation, which also included general education. Those preparing for secondary-school teaching took a degree from university or another higher education institution, such as the *grandes écoles* or the *Ecole normale supérieure* and tried to pass the CAPES or the *agrégation*, thus concentrating entirely on subject-matter competence. Then they were required to undertake professional work in a CPR, completely dissociated from the work of university education departments. Hence, professional teacher preparation and in-service training used to be completely dissociated from the universities (Judge, 1993, pp.1232–1235).

The creation of the University Institutes for Teacher Training (IUFMs)

During the 1980s, school education in France suffered from a chronic shortage of adequately trained teachers in certain regions and certain subject-matter specialities. This shortage was widely due to relatively unattractive employment conditions for teachers. The training of both primary- and secondary-school teachers had also become inadequate for different reasons. The entry requirements for the training of primary-school teachers had been upgraded to the degree level and the relatively rigid structure of the TTCs had proved to be costly and inadequate for this new clientele of teacher trainees. There was a tight dichotomy in the training provision for secondary-school teachers, whereby universities were in charge of subject-matter training and the CPRs offered a one-year practical in schools.

Consequently, within the context of an overall reform of the status of teachers, it was decided to unify teacher training within a single institution, the University Institutes for Teacher Training (*Instituts universitaires de formation de maîtres* or IUFMs). From 1990 onwards, 29 IUFMs were established, incorporating the earlier existing écoles normales, the CPRs, and the six *Ecoles normales nationales d'apprentissage*, the latter providing professional training for the future teachers of upper-secondary professional schools. The IUFMs were charged not only with conducting the initial training of teachers for primary and secondary schools, but also with continuous education and applied educational research.

The creation of the IUFMs was accompanied by a reform of the status and the employment conditions of teachers. For primary schools, a new corps of *professeurs des écoles* was created. It was also decided that those trainees who succeeded in passing the national competition, the so-called *Concours*, would be granted a salary during their second year of training and preliminary civil-servant status.

The IUFMS train teachers for a two-year, full-time programme, once they have completed the *Licence* (three-year degree) or the *Maîtrise* (four-year degree) at university. Those who already succeeded in the *agrégation* examination can join the second year of training directly[3]. This is because the first year of training is conceived as a preparation for the *Concours* and is widely based on subject-matter competency. During this first year of training, little time is allocated to professional training, with only a brief first introduction to the didactics of the discipline, and an initial observation period in school.

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[3] The *agrégation* is the traditional competitve examination for becoming a qualified teacher.

Those trainees who succeed in passing the *Concours* enter the second year, which is geared more directly towards professional training. It includes several internships during which the trainee takes up a supervised teaching assignment. Teacher trainees have to document their reflections on the experience gained during this first teaching assignment in a final paper. A final examination and validation of their appointment to the teaching force is made at the end of the second year of training.

The IUFMs and their association with the universities

The IUFMs were created to provide a new institutional framework for a co-ordinated professionalisation of teachers in France. One of the strategic institutional options taken has been their attachment to a university, while maintaining an autonomous status and possessing their own governance structures. The notion of university attachment has not been clearly defined in the statutes and it is up to the IUFMs to negotiate the structure and content of their collaboration with the universities. As a result, issues such as jointly organized training, the management of student flows from university to the IUFMs, joint educational research, as well as the exchange and sharing of university staff are left to the discretion of both partners. However, an important number of collaborations seem to have been put in place[4].

The creation of the IUFMs has not always been warmly welcomed by the universities, which were traditionally in charge of the CAPES preparation, particularly in the humanities. The heads of departments within the universities were not in favour of loosing this more prestigious task to the IUFMs. As a result, the collaboration between both institutions was put in place only very reluctantly.

From the outset, it was foreseen that the IUFMs would comprise university personnel as well as experienced school practitioners. It was decided that universities would make available some senior personnel, on a four-year basis, to direct particular teacher training streams. The so-called *directeurs d'études* (DETU) have been expected to maintain their research activities while being in charge of a particular training course. This arrangement has proved problematic, since the administrative workload of the DETU makes it difficult to pursue a research career at the same time. Consequently, there are fewer and fewer volunteers from the universities to accept such a position in the IUFMs (Ministère de l'Education nationale, 1996, p.23). In general, it seems that university personnel contribute to a minor proportion of the training provided in the IUFMs. This is also due to their relatively light statutory weekly workloads. In 1995, higher education personnel (*directeurs d'études*, professors and lecturers) represented less than a quarter of the overall IUFM teaching staff (not taking into account school mentors), the other three-quarters consisted mainly of school personnel and a small number of inspectors (*Ibid.*, p.12). It also seems that the university staff are mainly involved in the training of secondary teachers. However, the collaboration of higher education personnel and practitioners has been judged as one of the strengths of the IUFMs, but it poses many problems with regard to the integration of teaching components, which sometimes remain dispersed and unco-ordinated.

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[4] Cf. Evaluation reports of the CNE on the IUFM of Caen, Grenoble, and Lyon, 1996.

The IUFMs have also started making an effort in the area of research, albeit relatively modest efforts in the research area. Many of the permanent staff are involved in research work necessary to obtain a Ph.D. or a DEA[5]. In 1995, 84 research projects were jointly conducted with the National Institute for Pedagogic Research (INRP), mainly on aspects related to the didactics of disciplines. A number of joint IUFM/university research networks were also being put in place. However, in general, it remains difficult for the IUFMs' staff to integrate themselves in established teams at the universities or the national research organizations. This is because the portion of university teachers acting as permanent IUFM staff has remained relatively low. Also, the permanent, non-university IUFM staff are suffering from heavy teaching loads. As a result, research has thus received relatively low priority during the first four years of existence, and it would need to be systematized under the coverage of a national research policy on the practical aspects of education.

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[5] *Diplôme d'études approfondies* comprises the fourth year of academic studies and is an entry requirement for doctoral studies.

It seems that efforts have been increasingly made to co-ordinate and harmonize the training provision in the subject-matter areas, particularly with respect to the CAPES preparation, with the universities. This is often a difficult task, since the entry profile of first-year trainees has proved to be quite heterogeneous: some trainees enter with the minimum three-years of higher education studies, while others have a Ph.D. In some disciplines, the ambiguity in the relative role of both the IUFM training provision of the first year and the existing university's subject-matter preparation has been maintained, particularly where the university has been traditionally in charge of preparing students for the national *Concours,* CAPES or *agrégation*. It would seem that the relative roles of both the universities and the IUFMs need to be defined more clearly in this respect, and that, in general, there should be more co-ordination at policy level between the universities, the IUFMS, and the Ministry of Education.

In general, one can say that the attachment of the IUFMs to the universities carries with it a strong potential, in terms of more co-ordinated training provision, better management of student flows, and conducting joint research between both institutions. While this potential exists, it seems that it is unequally used and its full deployment depends very much on the dynamism and goodwill of particular individuals. The fact that the IUFMs have an autonomous status from the universities also allows them to establish more easily privileged relations with two other important partners in the professional component of their training: the regional educational authorities, i.e. *rectorats*, and the schools. However, it is also a handicap with regard to potentially closer co-operation with the universities.

Evaluation of the IUFM experience

The creation of the IUFMs has been accompanied by numerous preliminary evaluations from various bodies. More recently, the *Mission scientifique et technique* of the Ministry of Education conducted an external evaluation and the French National Evaluation Committee – *Comité national d'évaluation* (CNE) – issued reports in 1996 on three individual IUFMs: Caen, Grenoble, and Lyon (Ministère de l'Education nationale, 1996).

The evaluation report of the *Mission scientifique et technique* concludes in its analysis that the IUFMs have contributed to the development of a professional identity among graduates through the progressive introduction to the didactics of a discipline and a first contact with school reality. Internships are part of the first-year curriculum, followed by a more systematic exposure to school reality and a systematic reflection on it during the second year (*Ibid.*, 1996, p.9). However, the first training year remains predominantly devoted to the preparation of subject matter for 'hard knowledge' tested in the *Concours*. The evaluation report on the IUFM at Caen mentions, in particular, that there is ambiguity with regard to the relative weight and integration of both components in the training provision, to the detriment of the professional training part, at least during the first year (CNE, 1996, p.48).

The evaluation of the *Mission scientifique* states that the IUFMs are currently developing more coherent learning objectives and curricula (*plan de formation*). Given that there is no generally agreed-upon profile with well-defined competences for secondary-school teachers, this has proved to be sometimes difficult[6]. Moreover, professional training seems to be based at times on individual interpretation of the IUFM staff, rather than on an agreed-upon agenda for teacher training by those to be trained, recruited, employed, and validated.

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[6] A *profil de compétences* has recently been produced, validated and published for primary-school teachers, (*professeurs des écoles*).

Another identified problem referred to the integration of in-house professional training with internships in schools, one for observation purposes (first year) and two others for supervised and independent practice (second year). Since 1990, the IUFMs have been invited by the *rectorat* authorities to collaborate with networks of schools. Such networks seem to have been more successfully established with primary than with secondary schools. The number of trainees for the secondary level tends to fluctuate from one year to another. As a result, the placement of trainees in secondary school tends to be difficult from one year to the next (Ministère de l'Education nationale, 1996, p.21).

The IUFMs have managed to attract an impressive number of candidates and to double the number of accepted candidates from 1991 to 1995. This success is certainly due in part to the successive establishment of supplementary training streams, more attractive terms of training and employment, and the increasing rate of unemployed, higher education graduates. Providing a coherent training offer and the increased professional prestige that goes along with the IUFMs, has certainly also contributed to the growth of attracted candidates.

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This paper is a critical review of the specific role played by universities in initial teacher training (ITT). It highlights several unique contributions to good quality teacher training within the university setting. These include advanced subject-matter training, research-based instruction and a critical reflection on practice. The paper also identifies a number of ways to improve existing training provision. They include the integration of subject-matter competency, pedagogical skills, and practice teaching in order to transmit a holistic and meaningful set of tools and learning to the future teacher. In this respect, the paper discusses how mutually beneficial partnerships between schools and universities can be developed and sustained. Finally, the paper provides *two* examples of recent innovations in the *United Kingdom* and *France* concerning the institutional set-up of initial teacher training. Both countries have adopted very different reform options which correspond to existing earlier structures, address the particular problems inherent in each system and attempt to achieve the objectives of their respective educational policies.

The author

Michaela Martin, is a Programme Specialist at the International Institute for Educational Planning. An expert in policy-making, planning and management of higher education at the system and institution level, Ms Martin also has conducted research on the contribution of higher education to other levels of the education system. This paper was produced within this framework.

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